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NASA TECH BRIEF

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Silphenylene Elastomers Have High Thermal Stability and Tensile Strength

Polymeric silphenylene ethers were prepared by diol-diaminosilane reaction. Two of several polymers prepared were studied in detail because they appeared to have the properties best suited for aerospace technology. The selected polymeric silphenylene ethers were cured by reactions with ethyl silicates and metal salts at room temperature to form elastomers having excellent thermal stability and tensile properties. The highest tensile strength (nominal) obtained in a reinforced elastomer made from one of the silphenylene ether polymers was 2800 psi. This value might be compared with a value of 2000 psi as representative of reinforced silicone elastomers. The thermal stability of the polymers appears to be slightly higher than that of commercially available silicone rubbers.

Note:

No further documentation is available. Inquiries may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B69-10580

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

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Category 03

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